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CODIB-D-26/1

UNITED STATES INTELLIGENCE BOARD

COMMITTEE ON DOCUMENTATION

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The Coordinated Development of Compatible Intelligence Referencing Systems*

1. National Security Council Intelligence Directive No. 1, states, in part, that:

"a. In implementation of, and in conformity with, approved National Security Council policy, the Director of Central Intelligence in consultation with and supported by the other members of the U.S. Intelligence Board and by other appropriate offices, shall:

.....

"(3) Take appropriate measures to facilitate the coordinated development of compatible referencing systems within the departments and agencies engaged in foreign intelligence activities. Central reference facilities as a service of common concern shall be provided by the Central Intelligence Agency and/or other departments and agencies, as appropriate.

....."

*Approved: CODIB-M-10, para. 13; CODIB-M-12, para. 3

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2. Director of Central Intelligence Directive 1/4, at paragraph 3 (c), directs the USIB Committee on Documentation:

> "To coordinate the development of compatible systems for documentation and the processing of information."

3. The existence of the above directives makes it imperative that the intelligence community arrive at and agree upon their meaning. This paper will take a step in this direction by spelling out a concept of compatibility which must come to be commonly held if these directives are to have force in affecting the relationship among the referencing systems of USIB members. We cannot await the formulation of a total theoretical definition of compatibility to guide individual system developments in directions which appear to best serve the community. Practical working concepts, even if of only limited application, will take us far in the direction of compliance.

4. Historically, the referencing systems used by the several intelligence components have been developed with little if any regard for each other. Where it exists, compatibility among present systems (however compatibility may be defined) is therefore accidental. Hence our mandate to take steps to facilitate the development of systems along compatible lines. A reasonable interpretation of this mandate is to apply criteria for determining compatibility to proposals <u>involving a change in present systems</u>.

5. At the outset it is important to recognize that at the present state of the art there are many areas in which there is no demonstrable "best solution" to a problem. Thus the development of compatible systems

must allow for experimentation and for variation in approaches to problems. Unlicensed experimentation by one component of the USIB should, however, be recognized as possibley detrimental.

6. Inherent in the present organization of the intelligence community is the very great current and prospective exchange of intelligence information. The need for this exchange stems from the requirements of each component for a variety of information to discharge its assigned responsibilities. A related need stems from the centralization in one component or another of so-called services of common concern. In general, components receive information from many sources; in turn, they provide information to many users.

7. The handling of this information and its derivatives gives rise to many opportunities for the duplication of processing operations, and for the processing of information by one component in a manner which creates problems for the information service of another. This situation has important bearing on the economics of the entire complex. Agreement should therefore be reached on this simple principle: an operation which it is necessary to perform on a piece of intelligence information, or its carrier, should whenever possible be performed only once.

8. It would also be useful to agree that "compatibility" between two systems does not mean that they are identical, nor does it imply a need for integrating these systems in order to make them compatible. Such a high degree of identity between systems is ruled out if we recognize the integral operational and administrative relationship of some components of the intelligence community with their respective parent departments.

9. Proposed changes in existing systems are subject to evaluation in terms of:

a. Whether the changes will accomplish the objectives; and,

b. How the changes will affect operations in other intelligence components of the community.

The determination of a. is of community concern inasmuch as members have agreed to exchange information on their individual development programs, and mutually to assist one another. But the relationship between this concern and the compatibility issue is an indirect one. The ultimate determination is therefore a matter for the sponsoring department or agency. Item b. on the other hand goes to the very heart of the compatibility issue and is therefore a matter for evaluation by the community.

10. Broadly speaking, developing compatible systems simply means that sound management principles should be applied to the collective documentation practices of the various intelligence components. It may indeed be illusory to assume that "compatibility" can be precisely defined in terms which can be meaningfully applied to entire referencing systems. A referencing system is a complex which may involve many operations (e.g., identification, recording, organization, storage, recall, conversion, synthesis, dissemination). What degree of correspondence or of interchangability must exist between these operations as performed in two systems before the systems are said to be compatible? This is a fair question, but it may not be necessary to answer it wholly.

As suggested above, the critical question is: What impact has one system on another? This is ascertainable by examining the nature of the common links which exist between systems. These links are the physical forms and formats of information and intelligence which constitute the inputs and outputs of the various systems.

11. To a considerable degree there is common input into the several systems. In addition, the output of one system becomes the input of another. That being so, sound management would dictate that the evolution of the individual systems be guided to make the input and output of each more acceptable to the others.

12. Inputs and outputs have intellectual, editorial, and physical characteristics. The intellectual characteristics are manifest in the substantive content of the intelligence materials; the editorial, in the bibliographic features and the arrangement of the substantive content; the physical, in the nature of the medium on which the content is recorded. Content relates to language in the broadest sense, language, natural or machine, by which information is identified for purposes of storage and retrieval. In this sense, language means a coherent set of symbols, such as numerals, letters, words or syntactic units, which refer to or describe the intellectual content.

13. The editorial characteristics, on the other hand, tell us about the document as a carrier of information (e.g., security classification, pagination, enclosures, source and date of information). These characteristics are represented by a specified format, such as standard positions for entering title or subject, dissemination, and summary or

abstract. The choice of editorial elements and their physical arrangement on the carrier relate directly to efficiency and economy of the mutual exchange of the carriers of information and to the fulfillment of service requests for carriers or their informational content.

14. The nature of the medium tells us such things as whether the carrier is a piece of film, an IBM punch card, magnetic tape, original hard-copy, and about its size or the type of ink used. Thus language, editorial features, and carrier used are important determinants in assessing the extent of compatibility between systems.

15. To restate and summarize. We have a policy urging compatibility. Its implementation envisages the attainment of a desirable objective. This objective is greater efficiency, which in turn means that the several interdependent systems should be made to operate more harmoniously, with due regard for economic considerations. Three major areas are identifiable in which uncontrolled development can create new problems rather than solve old ones: choice of machine language for recording information; choice of editorial elements, including format; choice of carrier for this information.

16. Criteria.

Inasmuch as choice of language, editorial elements, and carrier for recording information have been identified as important determinants for the operation of intelligence referencing systems, criteria can be stated which will provide guidance for evaluating the compatibility of systems.

a. Language referring to or describing the contents of documents in one system should be acceptable, without change, as input language for another system, or, for recovering documents common to both systems; or, should be acceptable for input or recovery by available methods of translating the language used in one system into a common language or into the language of the other system, provided that there be one-for-one equivalency between languages.

b. Editorial elements should be based on the minimum requirements of the cooperating agencies for bibliographic control purposes; their physical arrangement by that best calculated to serve common technical capabilities for storage and reproduction of carriers.

c. The kind and format of carriers should be determined giving full recognition to the "done once only" principle.

17. Implementation.

Proposals for changes in intelligence referencing systems shall be submitted to the Committee on Documentation early in the initial planning phases for evaluation regarding their compatibility with existing systems.